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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,241

10/06/2006

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EXAMINER

YAGER, JAMES C

ART UNIT

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1794

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,241	<b>Applicant(s)</b> TAKADA ET AL.	
	<b>Examiner</b> JAMES YAGER	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed 09 November 2008 has been entered. Claims 1-4 are currently pending in the application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While there appears to be support in Table 2 for an organic silicon compound deposited using oxygen gas, nitrogen gas and an organic silicon compound, there does not appear to be support to recite an organic silicon compound that comprises the reaction product of nitrogen gas, oxygen gas and an organic silicon compound. It is not clear what difference, if any, there is between these recitations. Additionally, even if there were support in Table 2 for reaction product of

Art Unit: 1794

nitrogen gas, oxygen gas, and an organic silicon compound, while there is support for such reaction product with specific amounts of nitrogen gas, oxygen gas, and an organic silicon compound, and for specific organic silicon compound, i.e. HMDSO, there is not support for the broad recitation of reaction product of nitrogen gas, oxygen gas, and an organic silicon compound.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1794

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namiki (2002/0058115) in view of Thomas et al. (US 5,378,510).

Regarding claims 1-4, Namiki discloses plastic vessel comprising PET or PEN (i.e. a synthetic resin container) ([0001]; [0014]), having excellent in gas-impermeability (i.e. possessing a high gas barrier property) ([0001]) having a silicon oxide film (i.e. a silicon oxide layer) having a refractive index of 1.4 to 1.5 (wherein said silicon oxide compound layer has a refractive index in a range of 1.3 to 1.6) coated on a polymeric film of a silicon compound comprising an organic silicon compound (i.e. an organic silicon compound) (i.e. wherein at least said coating film comprises: an organic silicon compound layer positioned directly on the surface of the container body; and a silicon oxide compound layer positioned directly on a surface of said organic silicon compound layer that comprises a silicon oxide compound as a main component) ([0014]; [0034]), wherein the silicon oxide film is formed by CVD or PVD process ([0014]) and the polymeric film of silicon compound is formed by PVD (i.e. wherein the organic silicon compound layer and/or silicon oxide compound layer is a vapor deposited coating) ([0034]).

Namiki does not disclose that the organic silicon compound layer comprises the reaction product of nitrogen gas and oxygen gas.

Thomas discloses a barrier coating comprising an organosilicon compound applied by vapor deposition to a thermoplastic container (abstract; C3/L18-45), wherein the oxidizing gas used in the deposition includes nitrogen and oxygen (i.e. the organic silicon compound layer comprises the reaction product of nitrogen gas and oxygen gas) (C8/L40-45). Thomas further discloses that the coatings provide substantial resistance to permeation of gaseous or volatile substances (C3/L38-43).

Namiki and Thomas are analogous art because they both teach about barrier coatings for thermoplastic containers comprising an organosilicon compound that is vapor deposited on the container. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the deposition method of Thomas comprising an oxidizing gas including nitrogen and oxygen, to make the polymeric film of a silicon compound of Namiki to provide a barrier layer having substantial resistance to permeation of gaseous or volatile substances.

8. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al. (US 5,378,510) in view of Namiki (2002/0058115).

Thomas discloses a thermoplastic container (i.e. a synthetic resin container) having a barrier coating comprising an organosilicon compound applied by vapor deposition (i.e. possessing a high gas barrier property, and having a coating film possessing a higher gas barrier property and positioned on at least one of an inner surface and outer surface of the container body, wherein at least said coating film comprises: an organic silicon compound layer positioned directly on the surface of the container body; wherein said organic silicon compound layer is a vapor deposited

coating) (abstract; C3/L18-45), wherein the oxidizing gas used in the deposition includes nitrogen and oxygen (i.e. that comprises the reaction product of nitrogen gas, oxygen gas and an organic silicon compound) (C8/L40-45).

Thomas does not disclose a silicon oxide compound layer positioned directly on a surface of said organic silicon compound layer that comprises silicon oxide as a main component or that the organic silicon compound layer and/or silicon oxide compound layer has a refractive index in a range of 1.3 to 1.6.

Namiki discloses plastic vessel comprising PET or PEN (i.e. a synthetic resin container) ([0001]; [0014]), having excellent in gas-impermeability (i.e. possessing a high gas barrier property) ([0001]) having a silicon oxide film (i.e. a silicon oxide layer) having a refractive index of 1.4 to 1.5 (wherein said silicon oxide compound layer has a refractive index in a range of 1.3 to 1.6) coated on a polymeric film of a silicon compound comprising an organic silicon compound (i.e. an organic silicon compound) (i.e. a silicon oxide compound layer positioned directly on a surface of said organic silicon compound layer that comprises a silicon oxide compound as a main component) ([0014]; [0034]), wherein the silicon oxide film is formed by CVD or PVD process ([0014]) (i.e. wherein the silicon oxide compound layer is a vapor deposited coating) ([0034]). Namiki further discloses that the silicon oxide film has excellent gas-interception effect ([0030]).

Thomas and Namiki are analogous art because they both teach about barrier coatings for thermoplastic containers comprising an organosilicon compound that is vapor deposited on the container. Therefore, it would have been obvious to one of

Art Unit: 1794

ordinary skill in the art at the time the invention was made to incorporate the silicon oxide film of Namiki into the container of Thomas to provide a container having excellent gas-interception effect.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-4 regarding Matsuoka have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed 09 November 2008 have been fully considered but they are not persuasive. Applicant argues:

Applicants respectfully submit that Namiki does not cure the deficiencies of Matsuoka, discussed above. Specifically, Namiki is cited merely for its disclosure of a refractive index value. Therefore, Namiki nowhere teaches or suggest a container having multiple gas barrier layers thereon.

It is clear, as set forth above that Namiki discloses a plastic vessel having an organic silicon coating and a silicon oxide coating formed by vapor deposition as set forth above.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YAGER whose telephone number is (571)270-3880. The examiner can normally be reached on Mon - Thurs, 7:30am-5pm, EST, Alt. Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY 3/3/09

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794